

**In the Claims:**

Please amend claims 1, 3, 6, 7, 9, 10, 11, 12 and 14 as indicated below. Claim 8, 13, 15, 16 and 17 have been cancelled. A complete set of the claims as currently amended is provided in the "Listing of Claims" below.

**LISTING OF CLAIMS**

Claim 1 (Currently amended): A semiconductor device comprising an insulation film consisting of a fluoridation carbon film that has been subjected to thermal history of 420°C or lower, wherein

hydrogen atoms are included in the fluoridation carbon film, resulting from a chemical compound including hydrogen atoms as impurities, and

an amount of the hydrogen atoms included in the fluoridation carbon film is not more than 3 atomic % and more than 0 atomic% ~~or less~~ before the fluoridation carbon film is subjected to the thermal history.

Claim 2 (Original): A semiconductor device according to claim 1, wherein the insulation film is an interlayer insulation film.

Claim 3 (Currently amended): A manufacturing method of a semiconductor device comprising the steps of:

generating a plasma of a source gas consisting of a chemical compound of carbon and fluorine and including hydrogen atoms of  $1 \times 10^{-3}$  atomic % or less, and

forming an insulating film consisting of a fluoridation carbon film that includes hydrogen atoms of not more than 3 atomic % and more than 0 atomic% ~~or less~~, on a substrate, by using the plasma of the source gas, the hydrogen atoms resulting from a chemical compound including

hydrogen atoms as impurities.

Claim 4 (Original): A manufacturing method of a semiconductor device according to claim 3, further comprising: heating the substrate at a temperature of 420°C or lower, after the step of forming the insulating film.

Claim 5 (Original): A manufacturing method of a semiconductor device according to claim 3 or 4, wherein the chemical compound of carbon and fluorine is C<sub>3</sub>F<sub>8</sub>.

Claim 6 (Currently amended): A gas for a plasma CVD process, comprising an unsaturated carbon fluoride compound, an organic ~~and a~~ chemical compound including a hydrogen atom being included as impurities, water also being included as impurities, the amount of the organic chemical compound including a hydrogen atom being 90 weight ppm or less and the amount of water being 0.5 weight ppm or less.

Claim 7 (Currently amended): The gas for the plasma CVD process according to claim 6, wherein the amount of the organic chemical compound including a hydrogen atom is 10 weight ppm or less.

Claim 8 (Cancelled).

Claim 9 (Currently amended): The gas for the plasma CVD process according to ~~any of~~ claims one of claim 6 or 7 ~~to 8~~, wherein the unsaturated carbon fluoride compound is octafluorocyclopentene, hexafluoro-2-pentyne, or hexafluoro-1,3-butadiene.

Claim 10 (Currently amended): A manufacturing method of the gas for the plasma CVD process according to any of claims 6, 7 and 9 ~~to 8~~ comprising the step of bringing a composition of an unsaturated carbon fluoride compound and a an organic chemical compound including a

hydrogen atom in contact with burned adsorbent.

Claim 11 (Currently amended): A forming method of an insulation film comprising the step of: conducting a plasma CVD process by using the gas for the plasma CVD process according to any of claims 6, 7 and 9 to 8.

Claim 12 (Currently amended): A gas for a plasma CVD process, comprising an unsaturated carbon fluoride compound, and hydrogen atoms in the amount of not more than  $1 \times 10^{-3}$  atomic % and more than 0 atomic% as impurities ~~or lower~~.

Claim 13 (Cancelled).

Claim 14 (Currently amended): The gas for the plasma CVD process according to claim ~~6 to 3~~, wherein the amount of the water included as impurities is 0.1 weight ppm or less.

Claim 15 (Cancelled).

Claim 16 (Cancelled).

Claim 17 (Cancelled).